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DEPARTMENT OF THE ARMY  
OFFICE OF THE ADJUTANT GENERAL  
WASHINGTON, D.C. 20310

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IN REPLY REFER TO

AGAM-P (M) (24 June 68) FOR OT RD 682046

28 June 1968

SUBJECT: Operational Report - Lessons Learned, Headquarters, 39th Engineer Battalion (Cbt) (A) (CORRECTED COPY) Period Ending 30 April 1968 (U)

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2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

*C. A. Stanfield*  
C. A. STANFIELD  
Colonel, AGC  
Acting The Adjutant General

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as

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HEADQUARTERS  
39TH ENGINEER BATTALION (COMBAT) (ARMY)  
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EGD-BA-3

2 May 1968

SUBJECT: Operational Report of 39th Engineer Battalion (C) (A)  
for Period Ending 30 April 1968, RCS CSFOR-65 (RI)

THRU: Commanding Officer  
45th Engineer Group  
APO 96337

Commanding General  
18th Engineer Brigade  
APO 96377

Commanding General  
United States Army, Vietnam  
ATTN: AVHDC (DST)  
APO 96375

Commander in Chief  
United States Army, Pacific  
ATTN: GPDP-DT  
APO 96558

TO: Assistant Chief of Staff for Force Development  
Department of the Army (ACSPOR DA)  
Washington, D.C. 20310

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682046

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## 1. Section 1. Operations: Significant Activities.

### a. GENERAL:

(1) Command. Effective 20 Jan 68, the 39th Engineer Battalion (Cbt) was detached from the Americal Division and reverted to the command of Commanding Officer, 45th Engineer Group. The battalion remained in support of the Americal Division throughout the reporting period, with HQ and HQ Co at same location within the Chu Lai Base perimeter (BT 533037). Incumbent commanders at the close of the reporting period are as follows:

CO, 39th Engineer Battalion	- LTC James M. Miller
CO, Co A, 39th Engr Bn	- CPT Richard S. Waldrop
CO, Co B, 39th Engr Bn	- CPT Norman J. Coutant
CO, Co C, 39th Engr Bn	- CPT Wayne J. Scholl
CO, Co D, 39th Engr Bn	- CPT Philip E. Badame
CO, HQ Co, 39th Engr Bn	- 1LT James G. Raymo

(2) Major Activities. In addition to LOC minesweeping and maintenance missions on Rte QL-1, major activities during the reporting period included the opening of the road from THANG BINH (BT 175419) to LZ Colt (BT 115371) in support of Operation Wheeler-Wallowa; the opening of Rte 533 in support of Operation Burlington Trail; the upgrading of Rte QL-1 from BS 695635 to BS 737530 to MACV standards; and the construction of 122 helicopter revetments at Chu Lai. Although not an operational activity, the reporting period was also marked by an inspection of the battalion headquarters and all companies by the USARV Inspector General, from 8 to 12 April 1968. Overall findings were satisfactory.

(a) The opening of the road from THANG BINH to LZ Colt in support of Operation Wheeler-Wallowa commenced on 25 Mar 68. This mission was directed by CG, Americal Division and was to provide a LOC for resupply from HILL 63 to LZ Colt. The 39th Engr Bn accomplished the mission by repairing and upgrading the road to Class 50, one-way, limited all-weather standards, to include replacing inadequate existing drainage structures and constructing additional structures as required.

(b) The opening of Rte 533 from TAM KY (BT 306204) to TIEN PHUOC (BT 116139) in support of Operation Burlington Trail commenced on 17 Apr 68. The purpose of the opening is to provide a LOC for civilian traffic into the TIEN PHUOC valley. The opening will also contribute to the propaganda campaign of the RVN as it will be the first time the road has been opened since 1962. The 2d ARVN Division and the 1st Squadron, 1st Armored Cavalry are providing security. The 39th Engr Bn will support the operation by repairing and upgrading the road to Class 50, one-way, limited all-weather standards, to include replacing inadequate existing drainage structures and constructing additional structures as required.

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(c) In January 1968, Co C started lengthening culverts and widening bridges on QL-1 from BS 695635 to BS 737530 to accommodate a two-lane road constructed to MACV standards. On 18 Mar 68, the Earth-moving Platoon from Co D, 84th Engr Bn was attached to the battalion to assist in the widening of QL-1 to MACV standards.

(d) On 13 Feb 68 Co A started constructing 122 helicopter revetments according to USARV standards for Division Aviation units. With the exception of three revetments for CH-47 helicopters, constructed from M8A1 matting, all other revetments were constructed using timber pallets and 55 gal. barrels.

(3) Activities of Headquarters and Headquarters Company: During the reporting period the Heavy Equipment Section had the mission to provide support to line companies and accomplish engineer tasks in Chu Lai assigned by the Americal Division. Typical of the projects completed for the Americal Division were:

(a) Penepriming of roads and hardstands for 2d Surgical Hospital.

(b) Hauling fill and grading 3 miles of the Chu Lai west perimeter road.

(c) Routine road maintenance of Rte QL-1 from Chu Lai (BT 525038) to Binh Son (BS 597927) a distance of eight miles.

(d) The section augmented the line companies with equipment to assist the companies in accomplishing assigned projects.

(4) Activities of Company "A": At the beginning of the reporting period, Company A was located at LZ Ross (BT 024341) in the western QUE SON valley. The mission of the unit at this location was to complete the upgrading of Rte 535 in the QUE SON valley. On the morning of 1 Feb LZ ROSS came under mortar attack by elements of the 2nd NVA Division. Company A suffered no casualties. On 2 Feb during a mine sweep operation to open Rte 535 for a resupply convoy, three VC were engaged resulting in one VC KIA and two VC detained. During the period 1-5 Feb Company A continued to upgrade the interior roads of LZ ROSS by placing 28 ft of 36" dia culvert and a total of 1,260 cu yds of fill, and penepriming the entire road network. On 5 Feb while conducting a minesweep for a combat operation West of LZ ROSS a mine (consisting of approximately 30 pounds of TNT cast into a metal can with no firing device) was detected and destroyed in place. Preparing for movement to the Battalion C.P. on 5 Feb, Company A departed LZ ROSS at 0700 hrs on 6 Feb and closed into LZ BALDY (BT 134443) at 1630 hrs that same day. Departing LZ BALDY on 7 Feb the unit convoyed to the Battalion C.P. at Chu Lai, closing at 1600 hrs. From 8 to 13 Feb effort was primarily directed toward improvement of the company base area by constructing three 16'x32' tent frame buildings, three supplementary bunkers on the Battalion perimeter,

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and erecting 600 meters of triple standard concertina. On 13 Feb Company A began the construction of 122 aircraft revetments to USARV standards for the Ky Ha Heliport (BT 527115) project. From 13-20 Feb, 5,030 linear ft of cribbing was constructed and 4,313 55 gal drums were filled with sand and placed. A total of 37 revetments were erected between 13-20 Feb 68. During the period 21 Feb 68 through 29 Feb 68 work continued on the aircraft revetment project, constructing 4,790 linear feet of cribbing; filling 16,350 sandbags, and sealing the tops of 4,313 55 gal drums with RC-3. A total of 58 revetments were erected. Work continued on the aircraft revetments during the first ten days of March as seven UH1D Revetments were erected, 3,822 105mm shell canisters were placed on 39 revetments and banded with one-half inch wire rope. One CH-47 revetment consisting of two double walls of M8A1 matting 60 ft long, 3 ft wide and 9 ft high was also constructed. During this period 34,350 sandbags and 8,633 105mm shell canisters were filled with sand and stockpiled. An additional requirement for a 6,000 sq yd hardstand area was met by placing approximately 1,200 cu yds of laterite on a clay base. After compaction and final grading, a 60/40 mixture of RC3 and diesel fuel was applied to the laterite cap and covered with approximately one inch of sand. Through 20 Mar 68 two UH1D revetments were erected, 8,300 sandbags and 3,300 105mm shell canisters were filled with sand and stockpiled, 2,744 105mm shell canisters were placed on 28 revetments and banded; and the two final CH-47 revetments were completed. A shortage of materials precluded any further work on the Ky Ha Revetment Project during the month of March. On 20 Mar, 30 ft of 36" CMP was placed in each of the bypasses at I-1N8a and I-1N8b and covered with approximately 190 cu yds of fill. On 21 Mar 50 ft of 48" CMP was placed at I-1N8a. A total of 330 cu yds of fill was utilized to cover the CMP. On 21 Mar, work began on a 20'x48' computer van bunker. The bunker was a double wall design, utilizing 3"x12" siding on 8 to 10 inch diameter pile posts, which were filled with sand. The project also included a 10'x24' generator bunker with sandbag walls. By 31 Mar, the generator bunker was completed and the computer van bunker was 75% complete. On 23 Mar Company A was assigned the support task of constructing a 2,450 sq yd Helipad. The task was accomplished by placing 2,100 cu yds of laterite on a prepared sand base. On 31 Mar it was completed by applying a 50/50 mixture of penoprime and diesel fuel at a rate of one gal per sq yd. On 24 Mar the Second Platoon convoyed to LZ BALDY and was placed under the operational control of Company D to support mine sweep operations on Rte 535. On 1 Apr the First Platoon convoyed to LZ BALDY to replace the Second Platoon which returned to Chu Lai Base Camp. Work on the computer van bunker continued and was completed on 5 Apr. On 6 Apr the First Platoon was released by Company D, and returned to Chu Lai Base Camp. On 8 Apr Company A was assigned the project of renovating the Americal Division Combat Center, to include construction of a 5,000 sq yd maintenance hardstand, construction of a 21'x 48' maintenance building and adjacent 10'x16' generator shed with concrete floors, construction of two strongback barracks, rehabilitation of approximately 5,000 sq yd helipad, and the upgrading of 0.5 mile of

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entrance road. By 18 April approximately 7,550 cu yds of laterite had been placed, compacted and given a final grade to complete the helipad, maintenance hardstand, and entrance road requirements. On the same day all building requirements were completed and the final penepriming of the helipad was accomplished. Work also continued on the base area as 1,400 meters of triple standard concertina and 1,000 meters of tanglefoot wire was erected on the battalion perimeter. On 17 April, the minesweep responsibility for QL-1 between I-1N101 (BT 525038) and I-1N7 (BS 597927) was assigned to Company A. It was determined that in order to expedite the opening of this section of road, one squad would stay at I-1N7 each night and sweep back toward base camp. On 21 Apr work began again on the Ky Ha Revetment Project. The remaining 12 revetments were completed on 28 April. Base construction continued as 1,000 cu yds of fill was placed and compacted for the battalion perimeter road and 625 meters of tanglefoot wire was erected on the battalion perimeter. The reporting period closed with Company A moving off the revetment project at Ky Ha and beginning work on an extensive project to prepare an area at the Chu Lai east airstrip to receive a CH-47 company which is phasing into the Chu Lai area in May 1968.

(S)(c) Activities of Company "B": At the beginning of the reporting period, Company B had recently completed relocation from CHU LAI (BT 532073) south to XUAN YEN TAY (2) (BS 632854). The assigned mission of the unit was to minesweep QL-1 from BINH SON (BS 601920) to bridge I-1N3 (BS 633811). The assigned mission further included the maintenance and upgrading of QL-1 from BINH SON (BS 601920) to the bridge at QUANG NGAI (BS 642747). The total length of the minesweep was 7.5 miles and the length of the maintenance and upgrade was 11.5 miles. The assigned length of QL-1 was divided into platoon areas of responsibility of approximately 4 miles each. During the period 1-10 Feb 68 the primary effort was directed towards improving the company base area. It was determined that the best defensive position could be obtained by placing the three platoons in fighting/living bunkers on the perimeter. If the area came under attack, the response time required to have all personnel in protected fighting positions would be minimized. A total of eighteen bunkers were constructed for the line platoons and an additional three perimeter bunkers were constructed for the motor pool section. A connecting berm was constructed between each perimeter bunker to allow movement between bunkers with protection from small arms fire. Protective wire and trip flares were installed. One road crater was filled at BS 615892 on 10 February. The remaining improvements to the company area were completed on 20 Feb 68. On 11 Feb 68 upgrading of QL-1 began. The initial upgrading effort on QL-1 consisted of replacing destroyed bypasses around the major bridges in Company B's area of operation (AO). Six 36" dia culverts 30 ft long were installed at BS 624865 beginning 12 Feb 68 and completed on 22 Feb 68. Two 48" dia culverts 40 ft long were installed at BS 638756 beginning on 15 Feb 68 and completed on 29 Feb 68. The last bypass was started on 24 Feb 68 at BS 633811 consisting of two 48" dia culverts 40 ft long. This bypass

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was finished on 3 Mar 68. A 100 ft dia helipad was leveled and peneprimed for TF Barker HQ from 12-16 Feb 68. On 13 Feb 68 two road craters were blown at BS 605911 and BS 617908. Both explosive charges were placed in masonry arch culverts and the resulting craters blocked traffic. Both craters were filled and the road was opened within two hours after the incident was reported. On 21 Feb 68 work was begun on lengthening existing corrugated metal pipe (CMP) culverts to increase the roadway width to 24 ft with 4 ft shoulders. CMP culvert was used to replace concrete pipe culverts, concrete box culverts, and masonry arch culverts which could not be lengthened. In several locations, the existing culverts had been destroyed by enemy activity. In these cases, the culvert size was based on previous road reconnaissance reports. During the period from 21 Feb 68 to 10 Mar 68, 212 ft of 36" dia, 182 ft of 48" dia, and 112 ft of 60" dia culvert were installed. The first mining incident on QL-1 in this unit's AO occurred on 7 Mar 68. A crater was discovered by one of the minesweep teams at BS 629831. The road up to the crater was swept and the crater was being backfilled when a 5 ton dump truck detonated an estimated 15 pound charge 100 ft back from the crater. It was assumed that a bamboo firing device was used which contained so little metal that it was not picked up by the mine detector. One EM was seriously wounded and the truck was declared a combat loss. On the afternoon of the same day, a Vietnamese civilian truck hit a mine at BS 630825, several hundred meters south of the first mine. The area where the mine detonated had been subjected to a deliberate sweep due to the earlier incident, but the firing device did not contain enough metal to be located by the mine detector. On 8 Mar 68 a mine containing 10 pounds of explosives and decoyed with a metal picket was located at BS 624854. On 9 Mar 68 a 60mm mortar round set for pressure detonation was located and destroyed at BS 627843. Also on 9 Mar 68, one sweep team received approximately 60 rounds of small arms fire at BS 618883. The sweep team returned fire and the 2d Platoon cleared the area where the fire originated with negative results. Work continued on extending and replacing culverts during the remainder of March. Since QL-1 had to remain open to traffic, the usual procedure for replacing culverts was to build a bypass and then replace the culvert. If a bypass could not be constructed, fill was placed on one side of the road to widen it to two lanes. Then one half the culvert was placed at a time and traffic could use the other one-half of the road. A combat support task was assigned on 12 Mar 68 to construct a 4400 sq yd helicopter parking area at BS 632854. The pad was constructed by placing approximately 2200 cu yds of laterite on a sand base. After compaction and grading, the laterite cap was peneprimed with a coverage of one gallon per sq yd. The helicopter parking area was completed on 20 Mar 68. On 11 March a mine containing 5 pounds of explosive was located and destroyed at BS 626845. On the same date another mine containing 25 pounds of explosives was destroyed at BS 630825. On 13 March two more mine incidents occurred; one M-16 anti-personnel mine at BS 630827 and one 81mm mortar round at BS 631823. Both mines were destroyed in

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place. On 18 March a mine containing 15 pounds of explosive was located and destroyed at BS 630825. On 20 Mar 68 preparation for the placement of reinforced concrete headwalls was started by excavating excess fill from the ends of the culverts. Beginning 30 Mar 68 Bridge I-1N6 (BS 603918), a 30' timber trestle bridge, was removed to be replaced with 4 ea 60" dia culverts. The excavation for the culverts at I-1N6 revealed a large quantity of clay in the base material. Work was stopped until a crane with clamshell could be provided to excavate the unsuitable base material. Work continued on replacing and extending culverts and excavating for headwalls during the period 1-21 Apr 68. On 11 Apr 68, construction of reinforced concrete headwalls was started. During the ten day period through 20 Apr 68, eight headwall footings and one set of 48" dia headwalls were placed. On 11 Apr 68, two mines, one an 81mm mortar round and the other containing 10 pounds of explosive were located and destroyed at BS 629830. 21 Apr 68 saw the remaining culverts installed in this unit's section of QL-1. To install or extend culverts in this 11.5 mi stretch of road, the following quantities of culvert were used: 18" dia-292', 36" dia-840', 48" dia-390', 60" dia-316'. A crane with clamshell started excavation of the clay at I-1N6 on 23 Apr 68 and completed the task by 26 May 68. At the end of the reporting period, the 4-60" dia culverts were being installed. Two sets of 60" dia, one set of 48" dia, and one set of 36" dia reinforced concrete headwalls were placed during the period 21-30 Apr 68. On 22 Apr 68, a minesweep team received approximately 400 rounds of small arms fire at BS 615892. Fire was returned and gunships of the 123d Avn Bn were called. A company of the 4/3 Infantry Battalion swept the area and detained 12 suspects. There were no friendly casualties.

(6)(C) Activities of Company "C": On 1 February 1968, Company C, 39th Engineer Battalion (Combat) was located at LZ Dragon, BS 734524, in the vicinity of Mo Duc, RVN. Efforts on Rte QL#1 begun in late January to construct two-lane, pile-bent timber bridges; to replace or extend all culvert sites; and to construct reinforced concrete and masonry headwalls continued to be unit's primary mission. The unit continued to have the combat support mission of conducting a daily minesweep of eleven (11) miles of Rte QL#1 from I-1S8 (BS 695635) to BS 760485. A total of fifteen (15) of seventeen (17) enemy mines were found during the reporting period as a result of these operations. On 5 February the 34' pile bridge at I-1S10 (BS 706618) and the dry span at I-1S12 (BS 724572) were destroyed by the enemy. An existing bypass at I-1S10 enabled the road to stay open. A hasty bypass and a 38' dry span were constructed at I-1S12 (BS 724572) enabling the road to open by 1200 hours. The pile bridge at I-1S10 (BS 760618) was widened to two lanes during late February as the destroyed span was repaired. At I-1S12 (BS 724572) a 20 ft two-lane pile-bent bridge was constructed to replace the destroyed dry span during early March. By 9 February the 58 ft two-lane, pile-bent timber bridge at I-1S17 (BS 736533) had been completed. One lane of one span was destroyed on 8 April and reconstructed on 8-10 April. Because a split cap was used on the north

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abutment, the explosive charges only damages one lane of one span. With minor work on 8 Apr 68 the bridge was open to one lane traffic by 1000 hrs. On 3 March construction was begun on another 20', two-lane, pile-bent timber bridge at I-1S11 (BS 707617) to replace inadequate and failing culverts. On 13 March 1968 the Earth Moving Platoon (-) of Company D, 84th Engineer Battalion (Construction) was attached to Company C and moved to LZ Dragon. Construction was begun on 20 March widening Highway QL#1 to MACV standards of 24 ft roadway with four ft shoulders. Trucks from Company C hauled sand from the Song Ve River eight miles to the north, to be placed in the rice paddy as initial subgrade. Fill from excellent laterite source at LZ Dragon was moved by the four 290's of the Earth Moving Platoon and compacted with two sheepsfoot rollers to complete the subgrade. The rock base course will be placed later as haul capability becomes available. To date approximately 6000 cu yds of sand and 33000 cu yds of fill have been hauled to bring 1.85 miles up to grade. Throughout the reporting period extensive efforts were spent on culvert placement and extension, and headwall construction. Reinforced concrete headwalls were constructed for all single culverts in relatively secure areas. Masonry culverts were constructed for all multiple culverts and single culverts in insecure areas. To date reinforced concrete headwalls have been constructed for thirteen culverts 36" or less in diameter, for four 48" dia culverts, and for four 60" dia culverts. Masonry headwalls have been placed over reinforced concrete footers for one 48" dia culvert, one 60" culvert, one double 60" site, one quadruple 60" site, and for one quintuple 60" site. As construction efforts in Company C's area of upgrade responsibility from BS 695635 - BS 737530 neared completion, effort was begun on the most critical drainage features between the Song Ve River (BS 695635) and Quang Ngai (BS 646723). Between 15 Mar - 30 April, the 130' bailey bridge at I-1S5 (BS 707617) was removed, the deteriorated concrete spans destroyed and an 80' two-lane pile-bent timber bridge constructed. Construction has begun on failing masonry archs at I-1S5a (BS 675675), I-1S5d (BS 681665) and I-1S5e (BS 683661). These sites and other drainage features will be replaced by 60" single or multiple culverts with reinforced concrete culvert headwalls during the coming months as roadwidening continues north to the Song Ve River.

(7Xc) Activities of Company "D": At the beginning of the reporting period Company D was located at LZ Baldy (BT 134443). The primary mission of the company at this location was the minesweep and maintenance of Rte 535 west to BT 081389. During the period from 1 Feb 68 to 11 Apr 68 that Company D swept Rte 535, 3 EM were wounded by enemy action; 5 enemy mines and 14 anti-personnel mines were found; and three 48" dia culverts 32' long were placed where culverts had been destroyed by the enemy. On 1 Feb 68, the First Platoon constructed a defensive perimeter for the 3d Bde, 4th Inf Div at LZ Ryder. The LZ was on a mountain top with large rock outcroppings. To provide sites for bunkers 900 lbs of C-4, 18 ea 40 lb shape charges, and 400 lbs of TNT were used to blast rock. With brush hooks, axes, as well as 2380 bangalore

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torpedoes, 13.5 acres of brush was cleared for fields of fire. 10,500 ft of concertina wire was installed around the perimeter and the command bunker was built. The LZ was completed on 19 Feb 68. From 5 Feb 68 to 20 Feb 68, the ASP was rehabilitated at LZ Baldy. The rehabilitation consisted of constructing drainage ditches and installing culverts; constructing a three wall (earth berm) rocket storage pad 100'x100'; and raising the level of the interior roads. A total of 2720 cy of fill were placed in the ASP. The Commanding General, Americal Division tasked Co D with the mission of clearing the trees and undergrowth adjacent to Rte 535. Co D started clearing from LZ Baldy west and one platoon from Co 4, 26th Engr Bn started clearing from LZ Ross (BT 027342) east. A total of 358 acres was cleared between 15 Feb 68 and 17 Mar 68. On 25 Mar 68, two platoons set up a forward CP at Thang Binh (BT 175419) and began construction of the road from Thang Binh to LZ Colt in support of Operation Wheeler-Wallowa. The road was to be a one-way, Class 50, limited all-weather, with turn-outs. The first 6 km of road work consisted of repairing an existing road and installing culverts where required. The remaining 4 km of road were built through a range of hills, rice paddies, and a river. To complete this road 7045 cu yds of fill were hauled and placed; 372' of culvert installed; and 2.3 acres of underbrush cleared from possible ambush sites. The two platoons completed the road on 5 Apr 68 and moved back to LZ Baldy on 6 Apr 68. On 11 Apr 68, Co D was given a warning order to be prepared to send one platoon to T-M KY (BT 292229) to start opening Rte 533 to TIEN PHUOC (BT 118139). On 12 Apr 68, one platoon moved to T-M KY and established a forward command post. By 16 Apr 68, the remainder of the company had closed and was engaged in constructing a new base camp. On 17 Apr 68 a reconnaissance was made of the first 6 km of road and a borrow pit was opened. The company will upgrade the road to one-way, Class 50, limited all-weather standards. From 18 through 21 Apr 68 the unit hauled 710 cy fill to make the road passable to military traffic for the first 5 km. On 22 Apr 68 heavy rains started and continued through 27 Apr 68 making work impossible. On 28 Apr 68, work was once again started on the road upgrading.

b. (W)INTELLIGENCE: During the reporting period, the Battalion Reconnaissance Section provided the necessary route information so that the battalion could plan its future route maintenance and upgrade programs. The section flew a daily helicopter reconnaissance of QL-1 in the battalion's A.O. checking for damage to drainage facilities or the roadbed. By conducting this early morning reconnaissance, information was received at Bn HQ early enough in the day so that plans could be made for repair of the damage. Prior to the battalion beginning a road repair or major upgrade project the Reconnaissance Section made either an aerial or ground reconnaissance of the project. Based on the information gathered, the plan for the project and the necessary materials were determined. During the period, 46 aerial recons were made of QL-1 and 16 ground recons were made of routes in the battalion's A.O.

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c. COOPERATIONS AND TRAINING:

(1) During the reporting period this battalion worked 6½ to 7 days a week depending upon assigned missions. Sunday afternoons were normally devoted to church services, maintenance of equipment, and mandatory training. Total hours of mandatory training for the battalion in this reporting period were 105. Each company fired a familiarization course for the M-14 rifle and reconfirmed the individual's battle sight zero during the quarter. A total of 10 potential career NCO's were sent to the Combat Leadership Course conducted by the Americal Combat Center. Beginning in February, this battalion made arrangements with the Americal Division to send newly-arrived replacements to the Division Replacement Training Center. Eighty-five individuals attended the Replacement Training Center during the quarter.

(2) During the reporting period, units from this battalion participated in 98 company-days of combat support operations. The remaining time was spent on construction tasks not directly related to combat operations.

d. (C)MOVEMENT: On 6 Feb 68, Co A moved from LZ Ross (BT 027342) to LZ Baldy (BT 134443). On 6 and 7 Feb 68 Co A moved from LZ Baldy to the Bn CP (BT 532037). Co D moved from LZ Baldy to Tam Ky (BT 292229) during the period 12 to 16 Apr 68. A total of 8 company days were involved in moving units of this battalion.

e. (C)SUPPLY:

(1) General: During the entire reporting period the battalion supply section was located with the battalion headquarters in the Chu Lai area. All supply support for Co A and Co B was handled through the battalion supply section. With the movement of Co D to Tam Ky (BT 292229) all supply support for this unit was assumed by the supply section. Only Co C was so remote from the Bn CP that rations and POL had to be obtained from the FSA at DUC PHO (BS 814383). Major construction materials continued to be a problem during the reporting period. The supply of bridge material was critical causing delays in completion of bridges. On 20 Mar 68, final coordination was effected through 45th Engineer Group with the 3d Naval Construction Brigade for acquisition of construction materials for LOC construction in the I Corp Tactical Zone.

(2) The battalion is currently operating four water points with a total daily output of approximately 36000 gallons.

(3) During the reporting period logistics support was received from the following organizations:

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(a) TASK FORCE MACDONALD, located at DUC PHO; a 1st Logistical Command FSA.

(b) TASK FORCE FRAZIER, located at LZ Baldy; a 1st Logistical Command FSA.

(c) 23d Supply and Transportation Battalion; located at CHU LAI.

(d) 3d Naval Construction Brigade; located at Da NANG; material supply for LOC construction.

(4) At the present time the means of resupply of the lettered companies is as follows:

(a) Company "A", resupplied by battalion.

(b) Company "B", resupplied by battalion.

(c) Company "C", located at Mo Duc. Class I, III, and some barrier materials are available from TASK FORCE MACDONALD at Duc Pho. All additional items are requisitioned from battalion.

(d) Company "D", resupplied by battalion.

(4) A number of major equipment shortages existed in this battalion during the reporting period. The lack of these affected the operational capability of this battalion. The critical shortages were as follow;

(a) 10 Ton Truck Tractor	1 ea
(b) 20 Ton Crane-Shovel	1 ea
(c) 25 Ton Semi-Trailer	1 ea
(d) Scoop Loader	4 ea
(e) 250 CFM Air Compressor	3 ea
(f) Tank and Pump Unit, Trk Mtd	4 ea

### FW MEDICAL:

(1) The Battalion Aid Station has the mission of conserving the fighting strength and building personnel strength at a unit level. Sick call is held daily in the morning, but the station is open 24 hrs a day for emergencies. The Battalion Aid Station is capable of caring for the majority of illnesses occurring within the battalion, except for diseases requiring more sophisticated methods of diagnosis or injuries requiring more than minor surgery. In this event, the patients are evacuated to the 2d Surgical Hospital located in the Chu Lai cantonment area.

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(2) The Battalion Surgeon visits the line companies weekly and holds sick call at each company. The Battalion Surgeon has organized sanitation teams within each company and inspections are conducted weekly.

g. (1) MAINTENANCE:

(1) General: During the reporting period, the Battalion Maintenance Section has improved its shop operation and the quality of support to the lettered companies. The maintenance of separate document registers, demand data cards, and suspense files by the companies has created a greater awareness for the importance of correct repair parts procedure. At present the overall maintenance program shows a general improvement as units have had to reconstitute maintenance logs and are now practicing maintenance management.

(2) Support: With the detachment of the battalion from Americal Division, direct support maintenance responsibility has passed from the 723d Maintenance Battalion to the 588th Maintenance Company (DS). The quality of support rendered by the 588th Mtce Co has been extremely high. The battalion is still experiencing a long down time on engineer equipment; this can be partially attributed to the fact that the 588th Mtce Co has been in support of the battalion for such a short time and had no major assemblies or recoverable components for engineer equipment prior to supporting this battalion. This problem should be alleviated during the next quarter as enough time will have elapsed for the 588th Mtce Co to build up an ASL for engineer parts. The 588th Mtce Co is in the process of applying a Modification Work Order (MWO) to all 5 ton dump trucks in the battalion. This MWO reduces the engine RPM's from 2900 to 2600 under full load and should result in less engine wear.

h. (1) CIVIC AFFAIRS: Increased emphasis was placed on civic affairs by the battalion this quarter. Over 1000 man-hours were contributed to civic affairs in the form of assistance for the construction of two market places, one town council building, three churches, and one refugee center. Over 500 cy of laterite and 400 cy of sand as well as 3500 lbs of cement have been contributed to these projects. The battalion has undertaken the responsibility of sponsoring a village south of Chu Lai. So far, MEDCAPS have been held three times a week and assistance has been provided in repairing the village school. Playground equipment has also been constructed for the school. A 4 km road is planned to link the village with Rte QL-1. The Battalion Surgeon has treated over 2600 people at MEDCAPS in the villages of PHUOC AN, MO DUC, and BIEN LIEN. Medical supplies and the services of the Battalion Surgeon have been furnished the province hospital in Quang Ngai. During the quarter the following munitions were turned in through the Voluntary Informant Program:

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<u>MINES</u>	<u>HG</u>	<u>40MM</u>	<u>60MM</u>	<u>81MM</u>	<u>90MM</u>	<u>105</u>
148	321	383	147	48	17	141
<u>155</u>	<u>8"-155</u>	<u>3.5"</u>	<u>4.2"</u>	<u>M72 LAW</u>	<u>RKT</u>	<u>SA</u>
13	4	23	54	10	15	2415

Piastors paid out for these munitions totaled 155,930\$ for the quarter.

## 1. COCASUALTIES:

	<u>WIA</u>	<u>KIA</u>	<u>DOW</u>
HHC	2	0	0
Co A	0	0	0
Co B	2	0	0
Co C	4	0	1
Co D	5	1	0
<b>TOTALS</b>	<b>13</b>	<b>1</b>	<b>1</b>

**1(u) MINES:** During the reporting period, this battalion discovered 51 mines. Most of these mines consisted of a bamboo firing device, with electric blasting cap, attached to artillery rounds and explosive charges. Seldom were the mines marked in any way. The following is a breakdown by month:

<u>MONTH</u>	<u>DETECTED</u>	<u>DETONATED</u>	<u>TOTAL</u>
FEB	18	2	20
MAR	17	4	21
APR	9	1	10

**1(u) BOOBY TRAPS:** During this period the battalion discovered 18 booby traps. Most of the booby traps consisted of hand grenades with trip wires and pressure-type devices. Following is a breakdown by month:

<u>MONTH</u>	<u>DETECTED</u>	<u>DETONATED</u>	<u>TOTAL</u>
FEB	7	2	9

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MAR	2	2	4
APR	3	2	5

2. Section 2. Lessons Learned: Commander's Observation, Evaluations, and Recommendations.

a. Personnel. None

b. Operations.

(1)(u) Driving Timber Piles Through Concrete Debris.

(a) OBSERVATION. Frequently when constructing pile bridges at the site of a previously existing concrete bridge, the debris on the river bottom cannot be completely removed. This makes exact placement of piles extremely difficult.

(b) EVALUATION. A successful technique has been developed to cut through a concrete slab to make it possible to drive a pile. A home-made shaped charge was fabricated utilizing approximately three pounds of C-4 placed in a 4" dia can. The can was placed on a picket and pushed through the silt to the concrete slab and detonated. The small hole cut through the slab was then enlarged with a one pound charge of TNT placed on a picket and pushed through the hole. The pile was then driven in the proper position.

(c) RECOMMENDATION. That this method of penetrating concrete slabs be used rather than using a conventional 15 lb shaped charge due to the savings in explosive.

(2)(u) Technique For The Employment of Claymore Mines.

(a) OBSERVATION. In establishing the perimeter defenses at Company B's base camp, a technique had to be developed to prevent observation and detection of claymore mines by the enemy.

(b) EVALUATION. The claymore mine is fastened on the inside of the lid of a 105mm ammunition box. The box is buried so that the lid is flush with the existing ground when the lid is closed. A length of communication wire is fastened to the lid to allow it to be raised to a vertical position. A short stake is driven behind the box to prevent the mine from being pulled beyond the vertical. The firing wire should be covered with several inches of dirt as protection against shrapnel and small arms fire. The mine is not raised to the firing position until it is to be fired. The following advantages are realized with this technique:

1. The mine is relatively safe from observation and detection.

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2. Makes it impossible for the mine to be reversed and fired back at the firing position.

3. Minimizes the exposure of the mine and firing wire to damage from shrapnel and small arms fire.

(b) RECOMMENDATION. That the above technique for employing Claymore mines in perimeter defense be considered by commanders.

(3) Mine Clearing Procedures.

(a) OBSERVATION. The enemy is aware that strategic LOC's must be reopened for traffic as quickly as possible after they blow a crater or destroy a culvert. They know that the engineers will be out as soon as possible to repair the damage.

(b) EVALUATION. To increase the value of the crater or the blown culvert, the enemy will mine the road in the vicinity of the damage and also likely borrow pits in the vicinity of the damage. This is in an attempt to catch the repair vehicles working on the damage.

(c) RECOMMENDATION. When repairing a damaged culvert or filling a crater, a deliberate minesweep should be made of the road leading to the damage and also in the vicinity of the damage out approximately 200 m. Also all likely burrow pits in the area should be subjected to a deliberate sweep before they are worked.

(4) Viet Cong Mining Practices.

(a) OBSERVATION. The Viet Cong in the 39th Engr Bn A.O. employ mines in two's and three's sometimes separated by as much as 100 meters.

(b) EVALUATION. On several occasions while minesweeping LOC's, this battalion has found mines within close proximity to each other. Sometimes the Viet Cong employ one mine on the road and then place mines off the road to either side. If the mine is discovered in the road and blown leaving a crater, trucks and APC's may try to bypass the crater and as a result detonate the mines placed on the sides.

(c) RECOMMENDATION. When one mine is detected a deliberate search must be made of the adjacent area both on and off the road to insure that there are no more mines or that they are detected. If a vehicle detonates a mine, all other vehicles must be immediately stopped and the area searched.

c. Training. None.



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d. Intelligence. None.

e. Logistics. None.

f. Organization.

(1) W MTOE To Provide Water Pump Capability.

(a) OBSERVATION. This battalion has been assigned many engineering projects requiring the use of water. Among these projects where water is required are compaction of roads, airfields, and helipads and concrete construction. In most instances water must be pumped from a source and hauled to the construction site. However, a Combat Engineer Battalion is critically deficient in water pump capability.

(b) EVALUATION. The only pump capability in each line company is the sump pump organic to the 250 CFM air compressor. If the air compressor is deadlined or committed to another project, the pump capability is depleted. Based on the experience of this battalion since it has been in Vietnam, at least one pump would be committed full time and another pump would be needed for back up.

(c) RECOMMENDATION. Consideration be given to a MTOE to provide two water pumps (125 gpm) to the Heavy Equipment Section of the Combat Battalion's Headquarters Company.

(2) W MTOE To Provide Compaction Equipment.

(a) OBSERVATION. This battalion has been assigned many earth fill and compaction projects ranging from pioneer roads to construction of C-130 airfields. This type of work is normal for most combat battalions in Vietnam. On each occasion, the battalion has had to get compaction equipment from Engineer Group HQ or from neighboring engineer units.

(b) EVALUATION. Since it is evident that Combat Engineer Battalions will continue to be engaged in earth fill and compaction tasks, it would be of value to provide organic compaction equipment for the battalions.

(c) RECOMMENDATION. Consideration be given to a MTOE to provide organic compaction equipment to the Heavy Equipment Section of Combat Battalion's without Light Equipment Companies. Compaction equipment would be one sheepsfoot roller and one rubber-tire roller.

g. Other.

(1) W Modification Of Fuel Systems On Truck, Cargo, 2½ Ton, M35A2.

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(a) OBSERVATION. Due to the poor conditions of roads in this section of I Corp, the fuel line from fuel filter to the injector pump rubs against the power steering reservoir.

(b) EVALUATION. To prevent wear on this fuel line, it may be wrapped with three layers of friction tape. This improves its durability, but further reinforcement is desired.

(c) RECOMMENDATION. The excessive wear of the fuel line could be eliminated by securing the fuel line to the engine with a bracket.

*James M. Miller*  
JAMES M. MILLER  
LTC, CE  
Commanding

DISTRIBUTION:

- 8 - CG, 18th Engr Bde, ATTN: AVBC-C
- 5 - CO, 45th Engr Gp, ATTN: EGD-3
- 3 - CG, USAFV, ATTN: AVHGC (DST)
- 2 - CINCUSARPAC, ATTN: GPOP-DT

JUN 13 1968

EGD-3 (2 May 1968) 1st Ind

SUBJECT: Operational Report of 39th Engineer Battalion (C) (A)  
for Period Ending 30 April 1968, RCS CSFOR-65 (RI)

DA, HEADQUARTERS 45TH ENGINEER GROUP (CONSTRUCTION), APO 96337

TO: Commanding General, 18th Engineer Brigade, APO 96377

1. This Headquarters has reviewed the Operational Report - Lessons Learned for the 39th Engineer Battalion and considers it an accurate description of activities and accomplishments during the reporting period ending 30 April 1968.
2. Concur with the Battalion Commander's observations and recommendations. The addition of water pumps and compaction equipment to the authorization of combat engineer battalions will be considered in the next MTOE action.

*George B. Fink*

GEORGE B. FINK  
COL, CE  
Commanding

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AVBC-C (2 May 1968) 2nd Ind

SUBJECT: Operational Report of the 39th Engineer Battalion (C) (A)  
for the Period Ending 30 April 1968, RCS CSFOR-65 (R1)

DA, Headquarters, 18th Engineer Brigade, APO 96377

3 JUN 1968

TO: Commanding General, United States Army, Vietnam, ATTN: AVHGC-DST,  
APO 96375

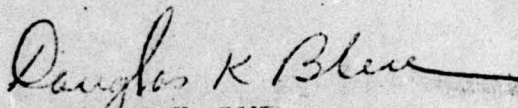
1. This headquarters has reviewed the Operational Report - Lessons Learned for the 39th Engineer Bn (Combat) for the reporting period ending 30 April 1968 as indorsed by the 45th Engineer Group. The report is considered to be an excellent account of the activities of the Battalion.

2. This headquarters concurs with the comments of the Battalion and Group Commanders with following comments added.

a. Reference: Paragraph 1e(4). The requisitions for equipment shortages have been validated on the most recent "Periodic Logistics Report".

b. Reference: Paragraph 1c(1). The training of non-divisional combat engineer replacements in a division training center is an excellent approach to the problem of transition training.

c. Reference: Paragraph 2f(2). The combat engineer battalion MTOE provides for the addition of one sheepsfoot roller. Additional compaction equipment will be considered during future MTOE actions.

  
DOUGLAS K. BLUE  
Colonel, CE  
Deputy Commander

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AVHGC-DST (2 May 68) 3d Ind CPT Arnold/rf/LBN 4485  
SUBJECT: Operational Report of 39th Engineer Battalion (C) (A) for Period  
Ending 30 April 1968, RCS CSFOR-65 (RI)

HEADQUARTERS, US ARMY VIETNAM, APO San Francisco 96375 8 JUN 1968

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,  
APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 30 April 1968 from Headquarters, 39th Engineer Battalion (Combat) (Army) as indorsed.
2. Concur with report as submitted.

FOR THE COMMANDER:

*C. S. Nakatsukasa*  
C. S. NAKATSUKASA  
Captain, AGC  
Assistant Adjutant General

Copies furnished:  
HQ, 18th Engr Bde  
HQ, 39th Engr Bn (Cbt)

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GPOP-DT (2 May 68) (U) 4th Ind  
SUBJECT: Operational Report of HQ 39th Engr Bn (Cbt)(Army) for Period  
Ending 30 April 1968, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 14 JUN 1968

TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D. C. 20310

This headquarters has evaluated subject report and forwarding indorse-  
ments and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:

*K. F. Osbourne*  
K. F. OSBOURNE  
MAJ, AGC  
Asst AG



UNCLASSIFIED

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